HP OpenView Service Assurance for Communication Networks

HP OpenView Operations Online Help

HP-UX, Solaris, Windows NT®

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Contents

Contents

1 Introduction to HP OpenView Service Assurance for Communication Networks

HP OpenView Service Assurance for Communication Networks (OVSACN) is an integrated solution for managing IP devices, telecom equipment, system information, and software applications. It is based on the HP OpenView Operations (OVO) platform, including HP OpenView Network Node Manager (NNM), and is designed for the communications service provider.

OVSACN manages events from multi-vendor telecom equipment using a variety of network transport protocols including ASCII, CMIP, SNMP, and TL/1. OVSACN consolidates the events into problems and presents them in a single problem report format.

OVSACN combines messages from all managed devices and applications into one message browser. Network operators see the broad picture of the network state and can prioritize effort based on the greatest need for the entire network.

OVSACN consists of three purchasable products: HP OpenView Operations (OVO), OV Telecom Extensions for OV Operations, and OV Topology Server.

HP OpenView Operations includes the OVO GUI, the main GUI used to manage assigned nodes, applications, messages, and services. The OVO GUI presents the network health in graphical and tabular displays, and shows status for the represented elements based on the severity of the received messages.

The optional OV Topology Server displays a map of telecom devices and displays telecom problems in the topology GUI. It receives all incoming messages generated by equipment included in the topology and associates each message with a particular managed object instance. The OV Topology Server sets the status for each managed object instance according to the statuses contained in the received messages. It also formats all received messages into problems and displays them in a problems presenter.

See also:

- "Introduction to the Topology GUI" online help, available from the Help button in the topology GUI.
- "Using HP OpenView Operations Features" on page 13
- "Relationship Between Messages and Problems" on page 15
- "Mapping of Tasks in the Topology GUI and the OVO GUI" on page 16

Product Architecture

Figure 1-1 shows a high-level view of the OVSACN network
management system.

Figure 1-1   **High-Level Product Architecture**
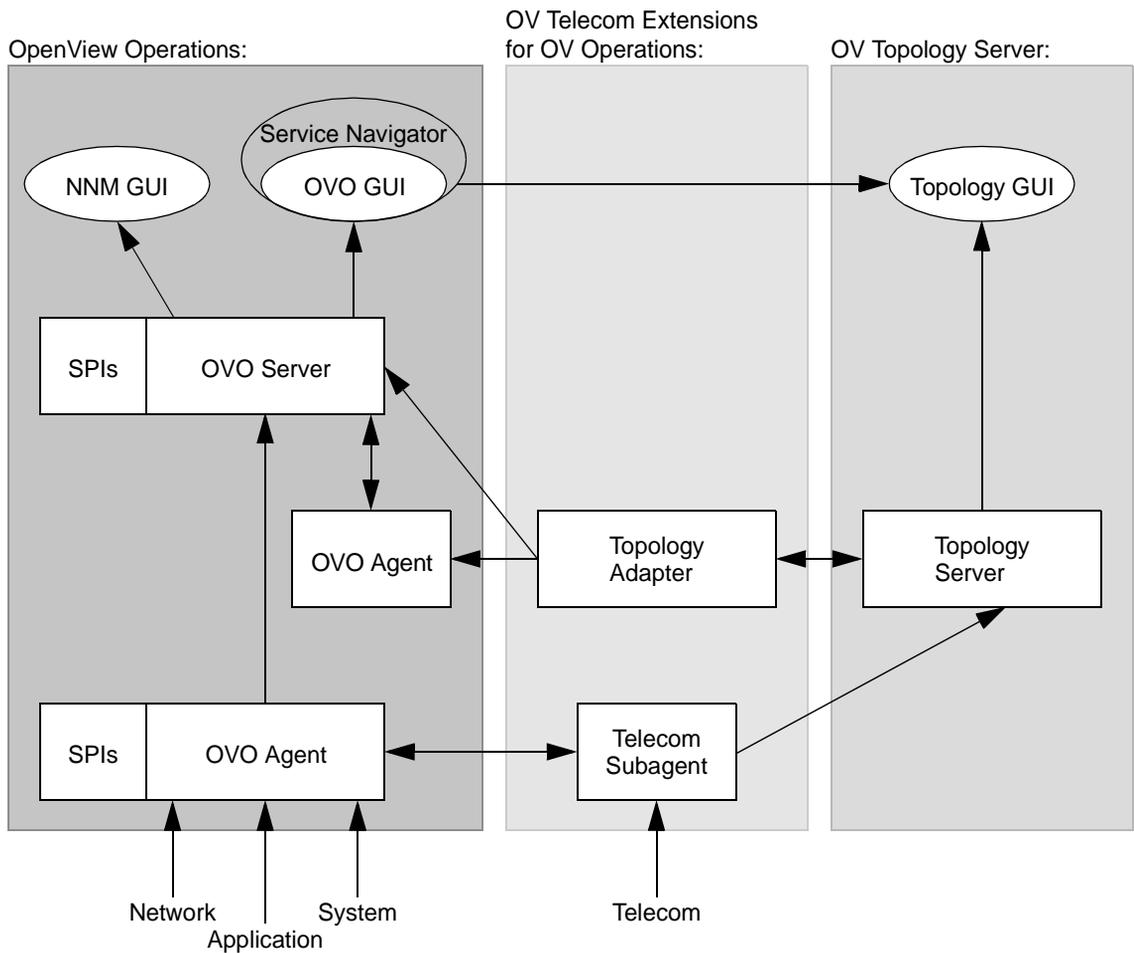
HP OpenView Operations

The primary components of OVO are:

- **OVO Agent**—The OVO agent processes run on managed nodes throughout the environment to collect messages from the processes running on those nodes. The OVO agent filters and formats these messages according to information in configured message source templates. It then forwards relevant information in the form of OVO messages to the OVO server. The OVO server responds with actions to prevent or correct problems on the managed nodes and passes the messages to the message browser in the OVO operator GUI.

  The OVO agent on the OVO server machine receives new problem and status messages from the OV Topology Server. The OVO agent formats these messages and forwards them to the OVO server. This OVO agent also performs self-management by reading OVO server software and machine operating system log files and creating and sending applicable messages to the OVO server.

- **OVO server**—The OVO server receives formatted messages from all managed nodes. It manages these messages, initiating automatic actions as necessary, and groups messages according to the current configuration. The OVO server updates the messages and status information displayed in the OVO GUI. Additionally, the OVO server can forward messages to other management servers and can install, configure, and update the OVO agent software on managed nodes.

- **OVO GUI**—The OVO GUI displays the managed nodes in the node bank. This node bank includes the topology of the managed telecom network elements. The OVO GUI also includes message groups, applications, and services. The OVO GUI message browser displays formatted messages received from all managed devices and applications. Problems displayed in the message browser also appear in the optional topology GUI's problems presenters.

  The network operators interact with the information presented in the OVO GUI to know the condition of the managed nodes they are responsible to maintain and to set priorities for their work day.

- **Service Navigator**—Service Navigator is an optional add-on product to the OVO Telecom Agent that provides visual data about the availability of the services in the network. Service Navigator displays a hierarchy of services and shows the current status of each service. It defines relationships between these services and managed

devices and applications, so that an incoming message from a device
or application can affect the status of an associated service. Service
Navigator provides root cause analysis of service status issues. It can
also show the services impacted by a particular failure condition
listed in the message browser. When the OV Topology Server is also
configured, the service hierarchy can show the specific telecom
network element that is causing a service degradation.

OV Telecom Extensions for OV Operations

The primary components of the OV Telecom Extensions for OV
Operations product are:

- **Telecom subagent**—The telecom subagent acts as a data collector to
  receive messages from telecom network elements and telecom
  element management systems. The telecom subagent formats the
  received messages using the configured message source templates.
  Additionally, the telecom subagent provides table lookup and time
  arithmetic capabilities. If the OV Topology Server is configured, the
  telecom subagent formats the messages into X.733 alarm format and
  forwards them to the topology server for further processing. If the OV
  Topology Server is not configured, the telecom subagent forwards the
  messages to the OVO agent.

- **Topology adaptor**—The topology adaptor forwards problem
  notifications from the topology server to the OVO agent for inclusion
  in the message browser. It maps source topology elements to nodes in
  the OVO GUI node bank for maintaining the two GUIs. The topology
  adaptor also maintains the synchronization between the message
  browser and the problems presenter by sending messages directly to
  the OVO server. This synchronization includes changes to problem
  ownership, severity, acknowledged state, and discharged state. When
  Service Navigator is configured, the topology adaptor assigns
  messages to the applicable services and communicates this
  information to the OVO server so the status of services that include
  elements in the telecom topology stays current.

OV Topology Server

The primary components of the OV Topology Server product are:

- **Topology server**—The topology server receives messages from the
  telecom subagent and correlates them into problems. The topology

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server acts as a server to the topology GUI by updating the problems
and status information displayed in the topology GUI.

- **Topology GUI**—The topology GUI consists of several presenters,
  including the map presenter and the problems presenter. The map
  presenter displays a hierarchical view (server maps that display
  containment) or logical view (map of managed services) of the telecom
  network objects in the map presenter. The problems presenter
  displays formatted problems correlated from incoming topology
  events. These problems are also displayed in the OVO operator GUI's
  message browser.

  The network operators interact with the information displayed in the
  topology GUI to monitor the condition of the managed objects for
  which they are responsible and to set priorities for their work day.

Using HP OpenView Operations Features

When used together, the OVO GUI and the topology GUI are powerful tools for managing your entire network. You can select a message in the OVO GUI and launch a presenter in the topology GUI to view further information about the selected message. This cross-launching functionality provides convenient access to a deeper level of information without requiring separate logins to each GUI.

The OVO GUI window is divided into two main areas; the scoping area on the left and the client area on the right. When you start OVO the Active Messages browser is displayed in the client area. This is a view of all active messages occurring on the network. The Message Groups column in the message browser indicates what server originated the message. The messages originated by OVSACN are indicated by "Telco", "Telco Nokia", and "Topology State Change." Through the message browser, you can review and manage these messages, and perform problem resolution.

You can launch the topology GUI in several ways from the OVO GUI.

- From the `Actions:Telco iNOC` menu, click `Launch NT GUI` or `Launch UX GUI`.

- In the scoping area double-click on Applications:Telco iNOC->Launch NT GUI or Launch UX GUI.

Once you have started the topology GUI, you can select a message in the OVO GUI message browser and access more information about that message through the topology GUI.

To access information about a message that is presented in the OVO message browser in the topology GUI:

1. Select a message in the OVO GUI message browser.

2. Select one of the following menu items from the `Actions:Telco iNOC` menu:

   - `Highlight in Map`

   - `Show Problem`

   - `Show Problem History`

Alternatively, in the scoping pane you can double-click on Applications:Telco iNOC->Highlight in Map, Show Problem or Show Problem History.

Relationship Between Messages and Problems

The OVO message browser and the topology GUI problems presenter
contain similar information for managing telecom equipment. Each
telecom message received by the OV Telecom Extensions for OV
Operations is correlated to a problem in the OV Topology Server and
each problem generated by the OV Topology Server creates a new
message in the OV Telecom Extensions for OV Operations. If the OV
Topology Server is configured, the choice of which window to use for
managing telecom equipment is a matter of network operator preference
and/or network operations center policy. The OVO message browser
contains a subset of all problem attributes, while the problems presenter
can display all of the problem attributes. The problems presenter can be
formatted extensively (hide/move columns, change column width) to suit
the operator's preferences.

The interaction between the OVO message browser and the topology GUI
problems presenter is described below.

- OVSACN maintains the synchronization of the OVO message
  browser and the topology GUI problems presenter. Changes to a
  message's severity, ownership, acknowledge state, or discharge state
  reflect in the problems presenter. Similarly, changes to a problem's
  severity, ownership, acknowledge state, or discharge state reflect in
  the message browser.

- When the topology server creates a problem because of a message
  received from the telecom subagent, the problem severity is set to the
  severity in the received message.

- When the topology server generates a new problem as a result of
  correlating several received messages, it sends a message to the OVO
  server so the message browser also includes a message about the
  problem.

- When the topology server changes a problem's severity, it sends a
  message to the OVO server to update the severity of the
  corresponding message in the message browser.

Introduction to HP OpenView Service Assurance for Communication
Networks
Mapping of Tasks in the Topology GUI and the OVO GUI

Mapping of Tasks in the Topology GUI and the OVO GUI

The following table shows how to perform tasks in both the topology GUI
and the OVO GUI.

Task	Steps in OVO GUI	Steps in Topology GUI
Own a problem	Select the problem in the message browser. Click Own from the pop-up menu.	Select the problem in the problems presenter. Click [Own].
Disown a problem	Select the problem in the message browser. Click Disown from the pop-up menu.	Select the problem in the problems presenter. Click [Disown].
Acknowledge/Discharge a problem	Select the problem in the message browser. Click Acknowledge from the pop-up menu.	Select the problem in the problems presenter. Click [Discharge].
Escalate a problem	Select the problem in the message browser. Click Escalate from the pop-up menu.	Not available.
View problem details	Select the problem in the message browser. Click Properties from the pop-up menu.	Select the problem in the problems presenter. Click [Details] or double-click the Problem Condition ID.
Add or view problem annotations	Select the problem in the message browser. Click Annotations from the pop-up menu.	Select the problem in the problems presenter. Click [Details] or double-click the Problem Condition ID. Then select the Annotation tab.

Mapping of Tasks in the Topology GUI and the OVO GUI

Task	Steps in OVO GUI	Steps in Topology GUI
View problem history	Select the problem in the message browser. Click Applications: Telco iNOC:Show Problem History in the Scoping pane, or click `Telco iNOC:View Problem History` from the `Actions` menu.	Select the problem in the problems presenter. Click [History].
Locate a problem on the map	Select the problem in the message browser. Click Applications: Telco iNOC-> Highlight in Map in the Scoping pane, or click `Telco iNOC:Highlight in Map` from the `Actions` menu.	Select the problem in the problems presenter. Click [Locate].

Introduction to HP OpenView Service Assurance for Communication
Networks
Mapping of Tasks in the Topology GUI and the OVO GUI

Index

O

OVO agent
  functions, 11
OVO operator GUI
  functions, 10
OVO server
  functions, 10
OVSACS
  overview, 7

S

Service Navigator
  functions, 10

T

telecom subagent
  functions, 11
topology adaptor
  functions, 11
topology GUI
  functions, 12
  launching from OVO GUI, 13
topology server
  functions, 11